

REPORT NUMBER HQDLR-19-401-006

# SAFETY COMPLIANCE TESTING FOR FMVSS NO. 401 INTERIOR TRUNK RELEASE

2018 MAZDA 3  
FOUR-DOOR PASSENGER CAR  
NHTSA VEHICLE NO. C20195401

U.S. DOT HEADQUARTERS  
1200 NEW JERSEY AVENUE SE  
WASHINGTON, DC 20590



**November 29, 2018**

FINAL REPORT  
PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
ENFORCEMENT  
NEF-220  
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Acceptance Date: 5/9/19

1. Report No. 401-HQDLR-19-006	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Final Report of FMVSS NO. 401 Compliance Testing of 2018 Mazda 3 Four-Door Passenger Car, NHTSA No. C20195401	5. Report Date	6. Performing Organization Code HQDLR
7. Author(s) Joshua Campbell, Safety Compliance Engineer Kerrin Bressant, Safety Compliance Engineer	8. Performing Organization Report Number HQDLR-DOT-19-401-006	
9. Performing Organization Name and Address U. S. DOT Headquarters/NHTSA OVSC 1200 New Jersey Avenue Washington, DC 20590	10. Work Unit No. (TRAIS)	11. Contract or Grant No.
12. Sponsoring Agency Name and Address United States Department of Transportation National Highway Traffic Safety Administration Office of Vehicle Safety Compliance, NVS 200 1200 New Jersey Avenue, SE Washington, DC 20590	13. Type of Report and Period Covered Final Test Report November 29, 2018	14. Sponsoring Agency Code NEF-220
15. Supplementary Notes		
16. Abstract Compliance tests were conducted on the subject 2018 Mazda 3 four-door passenger car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-401-01. Test failures identified were as follows: NONE.		
17. Key Words Compliance Testing Safety Engineering FMVSS NO. 401	18. Distribution Statement National Highway Traffic Safety Administration Technical Information Services Division NPO-411, Room E12-100 1200 New Jersey Avenue, S.E. Washington, DC 20590 Email: <a href="mailto:tis@dot.gov">tis@dot.gov</a> FAX: 202-493-2833	
19. Security Classification (of this report) UNCLASSIFIED	21. No. of Pages 24	22. Price
20. Security Classification (of this page) UNCLASSIFIED		

Form DOT F 1700.7 (8-72)

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## SECTION 1

### INTRODUCTION

#### 1.1 PURPOSE OF COMPLIANCE TEST

A 2018 Mazda 3 4-Door Passenger Car was tested to determine if the vehicle was in compliance with the requirements of FMVSS NO. 401. All tests were conducted in accordance with NHTSA/Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-401-01 dated August 8, 2007.

#### 1.2 TEST VEHICLE

The test vehicle was a 2018 Mazda 3 4-Door Passenger Car. Nomenclatures applicable to the test vehicle are:

A. Vehicle Identification Number: 3MZBN1W3XJM255817

B. NHTSA Number: C20195401

C. Manufacturer: Mazda

D. Manufacture Date: 09/18

#### 1.3 TEST DATE

The test vehicle was tested November 29, 2018.

## SECTION 2

### TEST PROCEDURE AND DISCUSSION OF RESULTS

#### 2.1 TEST PROCEDURE

Prior to test, the test vehicle was inspected for completeness and systems operability, including battery capability and trunk closure function. The vehicle was then photographically documented as required by the NHTSA/OVSC Test Procedure. The owner's manual was reviewed, and pertinent trunk release information was noted.

The rear trunk manual release system vehicle tests were conducted with an occupant enclosed in the trunk compartment with the lid shut. An assistant was present and prepared to release the occupant if necessary. The compartment was evaluated with all removable equipment furnished by the manufacturer stowed in accordance with vehicle label instructions.

The procedure used consists of the following steps:

1. Determine the means by which a trapped person within the trunk would escape from the compartment, e.g. pull of a T-handled release mechanism, rotation of fixed lever release mechanism, push of a button, etc.
2. For informational purposes, install a linear force transducer to the release mechanism determined above in order to record the force required to be applied by the trapped occupant to escape.
3. Verify that the release mechanism is visible in the darkened trunk (S4.2(a)), and determine method used, e.g. phosphorescence or auxiliary lighting. Some time may be required to allow for the eyes to adjust to the darkened environment within the trunk compartment. Photograph if possible the lighted release mechanism.
4. With the vehicle stationary and no key in the ignition (representing unoccupied vehicle), actuate the release mechanism and verify that the trunk lid releases from all latching positions. Record force required during 3 attempts to release trunk latching mechanism.
5. Repeat step 4 above, except with the engine idling (time with trunk lid latched not to exceed 30 seconds).

#### 2.2 DISCUSSION OF RESULTS

The force required to release the trunk lid did not exceed 6 Newtons on any attempt. The data indicate compliance of the test vehicle's manual trunk release system for the No Key in Ignition and the Idling Vehicle trunk release tests.

**SECTION 3**  
**TEST DATA**

**DATA SHEET 1**  
**FMVSS NO. 401 – TEST DATA SUMMARY**

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2018 Mazda 3 Passenger Car

VEHICLE NHTSA NUMBER: C20195401 VIN: 3MZBN1W3XJM255817

GVWR: 2,040 kg, 4,497 lbs. DATE OF MANUFACTURE: 09/18

TEST LAB: Alexandria Mazda TEST DATE: November 29, 2018

	PASS/FAIL	COMMENTS
Automatic or Manual release mechanism inside the trunk compartment. S4.1	Pass	
If manual release, lighting feature is included. S4.2(a)	Pass	Phosphorescence
Except as provided by S4.3(b), actuation of release mechanism required by S4.1 completely releases trunk lid from all latching positions of the trunk lid latch. S4.3(a)	Pass	

REMARKS: \_\_\_\_\_

RECORDED BY: Joshua Campbell and Kerrin Bressant DATE: November 29, 2018

APPROVED BY: Kerrin Bressant

**DATA SHEET 2**  
**TEST PREPARATION INFORMATION**

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2018 Mazda 3 4 Door Passenger Car

VEHICLE NHTSA NUMBER: C20195401 TEST DATE: November 29, 2018

TRUNK LOCATION: Rear

NUMBER OF TRUNK LATCHING POSITIONS: One

INTERIOR TRUNK RELEASE: Manual

EQUIPPED WITH POWER CLOSURE ASSISTING DEVICE: No

OWNER'S MANUAL DESCRIPTION OF TRUNK RELEASE: Yes

REMOVABLE EQUIPMENT DELIVERED IN TRUNK:

SPARE TIRE: Yes Size: T125/70D16

TIRE JACK: Yes

LUG WRENCH: Yes

OTHER: \_\_\_\_\_

REMARKS: None

RECORDED BY: Joshua Campbell and Kerrin Bressant DATE: November 29, 2018

APPROVED BY: Kerrin Bressant



## MANUAL TRUNK RELEASE OPERATION

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2018 Mazda 3 4-door passenger car

VEHICLE NHTSA NUMBER: C20195401 TEST DATE: November 29, 2018

Method used to actuate interior trunk release: Rotating  
Lever

Can test personnel enter trunk and be closed within? Yes

Size of occupant: 6' 0", medium frame

Is there access to the trunk compartment by folding down rear seat or partition? Yes

Does release mechanism require electric power? No

Can release mechanism be easily seen inside the closed trunk? Yes

Method used by vehicle manufacturer to ensure that release mechanism  
is visible in the closed trunk compartment: Phosphorescence

Laboratory test method used to determine visibility of release mechanism: Release mechanism  
was activated with force gauge from inside of trunk.

**DATA SHEET 3 (Sheet 2 of 2)**  
**MANUAL TRUNK RELEASE OPERATION**

Vehicle Stationary (0 km/h)	Force in Newtons Required to Release Trunk Lid (no requirement)	Trunk Released from All Latching Positions	Pass/Fail
<b>NO KEY IN IGNITION</b>			
Attempt 1	4	Yes	Pass
Attempt 2	6	Yes	Pass
Attempt 3	6	Yes	Pass
Average	5.33	Yes	Pass
<b>ENGINE IDLING</b>			
Attempt 1	5	Yes	Pass
Attempt 2	6	Yes	Pass
Attempt 3	4	Yes	Pass
Average	5	Yes	Pass

**TEST RESULTS**

PASS

**REMARKS:** \_\_\_\_\_

RECORDED BY: Joshua Campbell and Kerrin Bressant

DATE: November 29, 2018

APPROVED BY: Kerrin Bressant

**SECTION 4**  
**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

<b>EQUIPMENT</b>	<b>DESCRIPTION</b>	<b>MODEL/ SERIAL NO</b>	<b>CAL. DATE</b>	<b>NEXT CAL. DATE</b>
SHIMPO	DIGITAL MULTI METER 756202	FGV-200HX	04/13/2006	04/12/2008

**SECTION 5**  
**PHOTOGRAPHS**





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.1  
FRONT OF VEHICLE

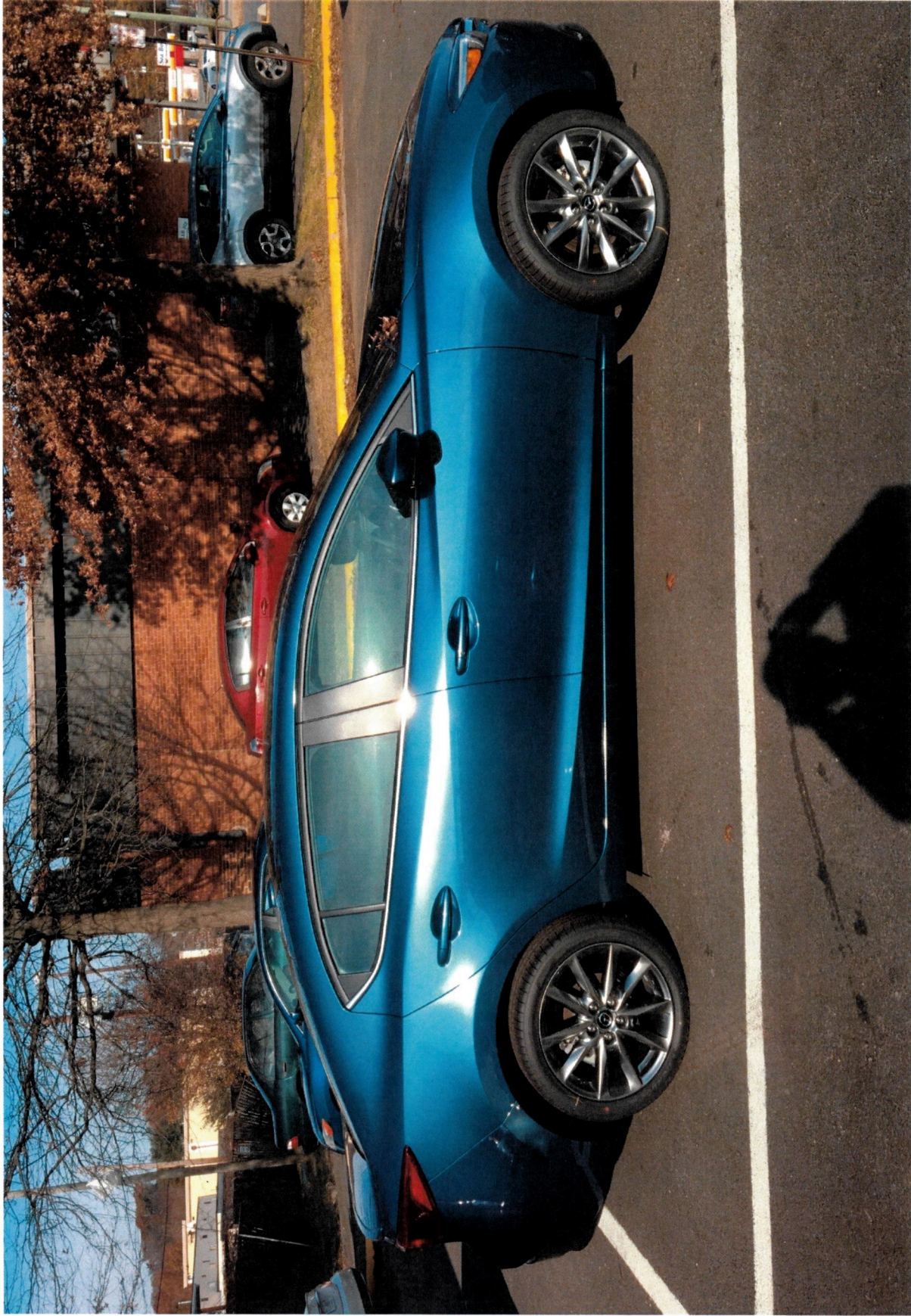




2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.2  
LEFT SIDE VIEW OF VEHICLE





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.3  
RIGHT SIDE VIEW OF VEHICLE





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.4  
LEFT REAR QUARTER VIEW





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.5  
RIGHT REAR QUARTER VIEW



MFD. BY MAZDA MOTOR MANUFACTURING DE MEXICO S.A. DE C.V.

DATE 09/18

FRONT GAWR/PNBE AV 2198 LB 997 KG  
WITH/AVEC

GUWR/PNBU 4072 LB 1847 KG  
REAR GAWR/PNBE AR 1883 LB 854 KG

TIRES/PNEUS WITH/AVEC  
RIMS/JANTES

KPA/ PSI COLD/A FROID

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 3MZBN1W3XJM255817 TYPE: PASS CAR COLOR CODE: 45B MADE IN MEXICO

TIRES/PNEUS  
RIMS/JANTES

KPA/ PSI COLD/A FROID



2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.6  
VEHICLE CERTIFICATION LABEL





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.7  
VEHICLE TRUNK COMPARTMENT INTERIOR  
SHOWING ORIGINAL EQUIPMENT INSTALLED





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.8  
VEHICLE TRUNK COMPARTMENT  
MANUAL RELEASE MECHANISM





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.9  
RELEASE MECHANISM WITH  
TEST EQUIPMENT ATTACHED





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.10  
TEST OBSERVER IN TRUNK COMPARTMENT





2018 MAZDA 3  
NHTSA NO. C20195401  
FMVSS NO. 401

FIGURE 5.11  
TRUNK LID EXTERIOR